STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
555 Cordova Street
Anchorage, AK 99501

SOLID WASTE GENERAL PERMIT
DRILLING WASTE STORAGE FACILITY
FOR WASTE GENERATED ON THE NORTH SLOPE

General Permit No. SWGPDRILL-18

Date Issued: **March 18, 2013**
Date Expires: **March 17, 2018**

The Alaska Department of Environmental Conservation (DEC), under authority of AS 46.03 and 18 AAC 60, issues this solid waste general permit for the operation and maintenance of a storage facility for drilling waste generated on the North Slope. This permit replaces General Permit #SWGPDRILL-13. A waste site subject to this permit must meet the following conditions:

- Waste must be generated in the North Slope of Alaska, which includes those portions of the state north of 68 degrees north latitude.
- Material to be stored may include only waste from oil and gas exploration, development, enhancement, or production activities, and RCRA non-exempt, non-hazardous waste.
- The storage facility must be designed and intended for more than one year of operation.
- Municipal solid waste, putrescible waste, camp waste, or hazardous waste may not be disposed or stored under this permit.
- This permit is to be used only for the storage of waste prior to permanent disposal and/or remediation.

If the applicant is not able to meet the conditions of this general permit, either an individual permit may be applied for under 18 AAC 60.210, or the waste must be brought to an existing facility permitted for the storage or disposal of drilling waste.

A person who wishes to store drilling waste under the conditions of this general permit must fill out the appropriate application form and submit it to DEC. Waste may not be placed in the storage facility until the Solid Waste Program Coordinator has approved the application in writing.

This permit is subject to the annual fee listed in 18 AAC 60.700, Table I-4.

The permit holder shall manage and operate the waste site in accordance with 18 AAC 60 and the permit application materials submitted to, and approved by DEC. In addition, the following general and specific permit conditions and stipulations are required:

SPECIFIC CONDITIONS

1. Site Location

a) Ensure the storage facility is not constructed on unstable soils/materials which could cause uneven settlement and slippage.

b) Ensure that the storage facility is a minimum of 200 feet from any public drinking water source, including surface water or well.

2. Site Design and Construction

a) Ensure the storage facility is designed so that it will not be damaged by thermal instability, including subsurface degradation of soils/material due to thawing of permafrost or freeze-thaw cycles.

b) Construct and maintain diversion structures such as ditches or berms to ensure that surface water runoff, including snow melt, does not flow onto the waste site and over, into, or through the waste.

c) Design, construct, and install a lined cell(s) in accordance with approved application materials and the liner manufacturer's specifications. The waste cell liner must be:

i. Constructed of a synthetic material with a hydraulic conductivity of no more than $1x10^{-7}$ cm/second;

ii. Continuous over the pit side walls and bottom;

iii. Securely anchored to prevent slippage into the pit;

iv. Designed so that deterioration of the liner system does not result from the placement or removal of waste in the cell;

v. Protected from frost action damage, and other freeze/thaw effects; and

vi. Resistant to, and compatible with, hydrocarbon and drilling mud waste.

d) Provide documentation to DEC showing that the liner installation specifications have been satisfied prior to placing drilling waste in the waste cell.

e) Ensure the integrity of the liner is maintained during all phases of construction and operation of the waste site.

f) Ensure, for all new cells constructed or renovations of existing cells performed after issuance of this permit, that a physical barrier is installed above the liner to prevent damage to the liner from waste cell operations.

g) Install and maintain a readable sign at the waste site entrance, which identifies the following information:

i. Name of the facility and the permittee;

ii. Emergency telephone numbers;

iii. Type of waste stored at the waste site; and

iv. Specify that municipal waste and hazardous waste are prohibited.

h) At the request of DEC, install and maintain a fence around the waste cell(s) if needed to restrict access by unauthorized persons and wildlife.

3. Facility Operations

a) Ensure that only waste from oil and gas exploration, development, enhancement, or production activities, and RCRA non-exempt, non-hazardous waste are accepted and/or stored at this site.

b) Prohibit the storage of municipal waste, putrescible wastes, camp waste, construction and demolition debris, oily wastes (such as used oil filters, waste oil, shop rags, and absorbents), spent radioactive material, lead–acid batteries, polychlorinated biphenyl (PCB) fluids, explosives, and any hazardous waste defined and regulated under 40 CFR 261.

c) Ensure that wastes are deposited and removed in a manner that will not damage the impermeability of the liner, or otherwise jeopardize the integrity of the liner.

d) Manage fluids in the cell such that:

i. All pumpable liquids that are in or on the waste cell are removed as soon as possible to prevent ponding or accumulation of fluids;

ii. The liquids are disposed in accordance with all applicable state laws and regulations; and

iii. A minimum two feet of freeboard is maintained in the waste cells at all times during operation.

e) Temporarily close any waste cell that has not received or will not receive any waste for a period of one year, ensuring that:

i. The temporary cover is placed within 15 months following the last waste deposition in the cell;

ii. The temporary cover consists of an impermeable flexible membrane liner placed over the waste cell;

iii. The temporary cover is graded or sloped to promote surface water runoff without erosion or ponding, and that ponding or accumulation of water on top of the cap is minimized;

iv. All water ponding on top of the temporary cap is removed as soon as possible; and

v. Waste cells in temporary closure status are permanently closed in accordance with Section 7 of this permit prior to the expiration of this general permit.

4. Surface Water Monitoring, Reporting, and Corrective Action

a) Conduct surface water monitoring in accordance with the approved monitoring plan included in the application materials, with the exception of storage facilities at offshore developments, which are exempt from surface water monitoring requirements in this section.

b) Establish at least three surface water sampling sites:

i. Sampling sites must provide an accurate representation of surface water quality off site within 200 feet of the waste site. If suitable surface water sites are not available within 200 feet of the waste site, DEC may approve alternate locations;

ii. Surface water sample sites may not be located in areas that are impacted from winter snow storage or runoff from snow storage stockpile areas;

iii. Samples must be collected from at least one background sample site which has not been affected by leachate from the waste site, and which is located upgradient and within 200 feet of the boundary of the waste site;

iv. Samples must be collected from at least two compliance sample sites located downgradient and within 200 feet of the waste site; and

v. Each surface water sample site must be clearly marked in the field and on the waste site plan.

c) Collect and analyze surface water samples from each approved sampling site once each summer until the waste site is permanently closed.

d) Analyze all surface water samples for the parameters listed in Appendix A.

e) Submit a report on surface water results to DEC no later than November 30 of each calendar year until the waste site is permanently closed. Reports must include:

i. A comparison to applicable surface water standards listed in Appendix A;

ii. Copies of the laboratory summary reports of the surface water test results;

iii. A map showing the location of the waste cell, property boundary, sampling sites, and direction of surface water flow or topographical gradient;

iv. An analysis of surface water quality trends over time; and

v. A determination whether contamination is occurring. Contamination is indicated by:

A. A sudden, abrupt, or significant increase in concentration of one or more constituents which can be attributed to site operations; or

B. Concentrations of one or more constituents which exceed the applicable surface water standards listed in Appendix A.

f) Initiate the following actions if contamination is indicated:

i. Determine the extent of contamination;

ii. Determine if the waste site is the cause of the contamination;

iii. Submit a corrective action plan, including a proposed schedule or timeline, to DEC within 30 days of determining contamination is present;

iv. Obtain written approval of corrective action plan from DEC;

v. Implement corrective actions to remediate the contamination; and

vi. Any additional actions required by DEC, possibly including closure of the facility as required by 18 AAC 60.430(e)(4) or reconstructing the facility to meet the standards of 18 AAC 60.430(c).

5. Other Monitoring and Corrective Action

a) Visually monitor and record observations at the site each month during active operation of the site, using the Visual Monitoring Checklist in Appendix B, or another form that records the information required by 18 AAC 60.800(a).

b) Upon noticing any permit or regulatory violations or damage to the waste site, immediately notify DEC and initiate appropriate corrective action necessary to remediate the problem.

c) Conduct any additional monitoring or analysis deemed necessary by DEC to determine the extent of any violations of permit conditions or regulations.

6. Record Keeping

a) Maintain an operating record until the site is permanently closed. The operating record must include a copy of :

i. Permit;

ii. Permit application;

iii. Operating Plan;

iv. Monitoring Plan;

v. Inspection records;

vi. Monitoring reports;

vii. Financial assurance documentation required under 18 AAC 60.265;

viii. Current as-built drawings of the waste site; and

ix. Any other training records, notification records, demonstrations, certifications, findings, analytical data, or other records required by DEC.

b) Make the operating record readily accessible for DEC review.

7. Cell Removal

a) Submit a cell removal plan to DEC at least thirty days before the waste site is to be permanently closed. The closure plan must include:

i. Detailed procedures to remove all waste material from the waste site and dispose at an approved facility;

ii. Detailed procedures to remove all timbers, liners, berms, and debris associated with the waste cell, and either reuse or dispose at an approved facility;

iii. A detailed plan for performing confirmation sampling after the waste and facility are removed that meets the requirements of Section 8a of this permit; and

iv. A proposed schedule or timeline for completing removal activities.

b) Obtain written approval of the removal plan from DEC prior to commencing closure activities.

c) Close the waste site in accordance with the approved removal plan.

d) Submit a notarized statement verifying that the removal has been completed to DEC within 30 days of completing final closure and confirmation sampling. This closure verification must include:

i. A statement verifying that the site was closed in accordance with the closure requirements of this permit and the approved closure plan;

ii. The date(s) the closure activity took place; and

iii. The signature of the person who supervised or performed the closure activity certifying that the information provided is true.

8. Confirmation Sampling

a) Within 10 days of cell removal, collect representative grab samples of:

i. Soil or earthen material underlying the waste cell(s);

ii. Water underlying the waste cell(s), if present.

b) Analyze soil, earthen material and water samples for the parameters listed in Appendix A.

c) Submit a report on sample results to DEC within 30 days of receiving sample results from the laboratory. Reports must include;

i. A comparison between laboratory results for soil or earthen material that was underlying the waste cell(s) and the standards in Appendix A;

ii. A comparison to applicable surface water standards listed in Appendix A for water that was underlying the waste cell(s), if present;

iii. Copies of the laboratory summary reports of the laboratory test results; and

iv. A map showing the location of the waste cell, property boundary, sampling sites, and direction of surface water flow or topographical gradient.

v. A determination whether contamination is present. Contamination is indicated by:

A. Concentrations of one or more constituents in soil or earthen material that significantly exceed the standards in Appendix A, or alternatively, measured background levels at the site; or

B. Concentrations of one or more constituents in surface water which exceed the applicable surface water standards listed in Appendix A.

d) Initiate the following actions if contamination is indicated:

i. Determine the extent of contamination;

ii. Determine if the waste site is the cause of the contamination;

iii. Submit a corrective action plan, including a proposed schedule or timeline, to DEC within 30 days of determining contamination is present;

iv. Obtain written approval of corrective action plan from DEC;

v. Implement corrective actions to remediate the contamination; and

vi. Any additional actions required by DEC.

e) If no contamination is present after removal of the facility, discontinue all surface water and visual monitoring.

f) If contamination is present after removal of the facility and its contents, continue all monitoring activities required during the time that the facility is active until the permittee completes corrective action to the satisfaction of DEC.

g) Conduct any additional investigation, assessment, monitoring, and/or remediation required by DEC if new information regarding conditions at the site indicates that further actions are necessary to protect human health or the environment.

GENERAL CONDITIONS

1. **Access and Inspection** - The Permittee shall allow the Commissioner or representatives access to the permitted facilities at reasonable times to conduct scheduled or unscheduled inspections or tests to determine compliance with this permit, State laws, and regulations.

2. **Information Access** - Except for information relating to confidential processes or methods of manufacture, all records and reports submitted in accordance with the terms of this permit shall be available for public inspection at the State of Alaska, Department of Environmental Conservation, local area office.

3. **Civil and Criminal Liability** - Nothing in this permit shall relieve the Permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, including, but not limited to, accidents, equipment breakdowns, or labor disputes.

4. **Availability** - The Permittee shall post or maintain a copy of this permit available to the public at the facility.

5. **Adverse Impact** - The Permittee shall take all necessary means to minimize any adverse impacts to the receiving waters or lands resulting from noncompliance with any limitation specified in this permit, including any additional monitoring needed to determine the nature and impact of the noncomplying activity. The Permittee shall clean up and restore all areas adversely impacted by the noncompliance.

6. **Cultural or Paleontological Resources** - Should cultural or paleontological resources be discovered as a result of this activity, work which would disturb such resources is to be stopped, and the State Historic Preservation Office, Division of Parks and Outdoor Recreation, Department of Natural Resources, is to be notified immediately (907-269-8721).

7. **Other Legal Obligations** - The requirements, duties, and obligations set forth in this permit are in addition to any requirements, duties, or obligations contained in any permit that the Alaska Department of Environmental Conservation or the U.S. Environmental Protection Agency has issued or may issue to the Permittee. This permit does not relieve the Permittee from the duty to obtain any and all necessary permits and to comply with the requirements contained in any such permit or with applicable state and federal laws and regulations. All activities conducted by the Permittee pursuant to the terms of this permit and all plans implemented by the Permittee pursuant to the terms of this permit shall comply with all applicable state and federal laws and regulations.

8. **Pollution Prevention** - In order to prevent and minimize present and future pollution, when making management decisions that affect waste generation, the Permittee shall consider the following order of priority options: waste source reduction; recycling of waste; waste treatment; and waste disposal.

This permit expires on **March 17, 2018**, and may be revoked or amended in accordance with 18 AAC 60.255. The permit can be renewed if the waste site will operate beyond this date. To avoid expiration of this permit, a renewal application, on a form provided by DEC, must be submitted to DEC no later than February 17, 2018.

Robert J. Blankenburg, P.E.
Solid Waste Program Manager

Monitoring Parameters and Standards

Surface Water

Parameter	Standard (a) µg/L	
Arsenic	50	If the average of measured background concentrations exceeds the listed standard, then the average of measured background concentrations will replace the listed standard (per 18 AAC 70.235).
Barium	2000	
Chromium	100	
Lead	0.54-19 (b)	
Nickel	16-100 (b)	
Zinc	37-390 (b)	
Sodium	250,000	
Benzene	5	
Toluene	1000	
Ethylbenzene	700	
Xylene	10,000	
Total Aromatic Hydrocarbons	10	
Diesel Range Organics	1,500	
pH	Within 0.5 pH units of background	
Hardness (Calcium & Magnesium) (c)	No standard applies, value used to calculate standards	
Sheen test	No Sheen	

(a) Source of standards: 18 AAC 70.020(b) and the *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances*, incorporated by reference in 18 AAC 70.020(b) for all parameters except Diesel Range Organics. Source of standard for Diesel Range Organics: 18 AAC 75.345, Table C.

(b) Standard is hardness dependent; see formulas in Table III of the *Alaska Water Quality Criteria Manual* or calculator on STDCalc tab at www.dec.state.ak.us/water/wqsar/wqs/toxicsbook.xls.

(c) Hardness Calculation
Utilizing the measured values for Calcium and Magnesium in mg/L, a hardness value in mg/L $CaCO_3$ may be obtained in the following formula: Ca*2.5 + Mg*4.1 = hardness in mg/L $CaCO_3$

Soil

Parameter	Standard mg/Kg	
Arsenic	3.9	If the average of measured background concentrations exceeds the listed standard, then the average of measured background concentrations will replace the listed standard [per 18 AAC 60.490 (b)]
Barium	1100	
Chromium	25	
Lead	400	
Nickel	86	
Zinc	4100	
Benzene	.025	
Toluene	6.5	
Ethylbenzene	6.9	
Xylene	63	
Total Aromatic Hydrocarbons	15	
Diesel Range Organics	230	

Visual Monitoring Checklist

Facility Name:	
Inspector:	
Date:	

Evaluate each item, check whether acceptable (A) or unacceptable (U), fill in any required information, and make notes on the conditions observed and corrective actions taken.

A	U	Notes
		Access control measures are in good repair/functioning (fencing, gates, berms, or other barriers necessary to prevent unauthorized access or dumping)?
		Damage to or slippage of the liner?
		Damage to surface water monitoring markers and/or points?
		Signs of erosion?
		Signs of thermal instability or frost action?
		Signs of settlement in covered areas?
		Any ponding or accumulation of standing water?
		Signs of leakage or leachate seeping?
		Signs of damage to any portion of the waste site, including containment structure, retaining wall, erosion control, diversion structure, or other structures?
		Other signs of instability?
		Escape of waste (waste outside the storage area)?
		Unauthorized types of waste in **or near** the storage site?
		Signs of fire or combustion in the waste cell?
		Evidence of death or stress to fish, wildlife, or vegetation that might be caused by the waste site?
		Any other violations of permit conditions or regulations?